Name:

at1113exam: Expand, factor, and solve quadratics (v309)

1. Expand the following expression into standard form.

$$(4x + 3)(4x - 3)$$

$16x^2 - 12x + 12x - 9$

$16x^2 - 9$

2. Expand the following expression into standard form.

$$(2x - 5)^2$$

$4x^2 - 10x - 10x + 25$

$4x^2 - 20x + 25$

3. Solve the equation.

$$(2x - 5)(8x + 3) = 0$$

$x = \frac{5}{2}$ $\quad$ $x = \frac{-3}{8}$

4. Expand the following expression into standard form.

$$(9x + 5)(2x + 3)$$

$18x^2 + 27x + 10x + 15$

$18x^2 + 37x + 15$

5. Solve the equation with factoring by grouping.

$$10x^2 + 8x + 15x + 12 = 0$$

$$(2x + 3)(5x + 4) = 0$$

$$x = \frac{-3}{2} \qquad x = \frac{-4}{5}$$

6. Factor the expression.

$$x^2 - 4x - 32$$

$$(x + 4)(x - 8)$$

7. Solve the equation.

$$9x^2 - 17x + 3 = 2x^2 - 4x - 3$$

$$7x^2 - 13x + 6 = 0$$

$$(7x - 6)(x - 1) = 0$$

$$x = \frac{6}{7} \qquad x = 1$$

8. Factor the expression.

$$49x^2 - 16$$

$$(7x - 4)(7x + 4)$$